

Biology - FSC Part 1 Biology English Medium Chapter 2 Preparation

Q1. Why lipids are considered as high energy molecules as compared to the carbohydrates.

Ans 1: Lipids are also used to store energy e.g triglyceride. Because of high proportion of C–H bonds and very low proportion of oxygen, lipid store double amount of energy as compared to the same amount of carbohydrates.

Q2. Differentiate between Nucleoside and Nucleotide.

Ans 1: Nucleoside : When nitrogen base and pentose sugar react it forms nucleoside.

Ans 2: Nucleotide: When nucleoside reacts with phosphate group it is called nucleotide.

Q3. How a peptide bond is formed.

Ans 1: The linkage between hydroxyl group of carboxylic group of one amino acid and the hydrogen of amino group of another amino acid release water and C–N link to form peptide bond.

Q4. What are conjugated molecules? Give one example.

Ans 1: Two different molecules of two different categories usually combine together to form conjugate molecule. For example carbohydrates may combine with proteins to form glycoproteins.

Q5. How amino acids differ from each other?

Ans 1:

All the amino acids have an amino group and a carboxyl group attached to the same carbon atom called alpha carbon.

Q6. Write two protective functions of water.

Ans 1: Water is an effective lubricant which provides protection against damage from friction e.g. tears protect eye surface from the rubbing of eyelids. Water also forms a fluid cushion around organs and protects them from trauma.

Q7. How many chains of amino acids are present in hemoglobin, also mention number of amino acids in hemoglobin.

Ans 1: There are four chains in hemoglobin: two alpha and two beta chains, amino acids are 574.

Q8. Compare alpha helix with beta pleated sheet in proteins.

Ans 1: The polypeptide chain in a protein do not lie flat, they usually coil into a helix or into beta sheet like form.

One of the basic common structure is the alpha helix, it involves a spiral formation of the basic polypeptide chain. The alpha helix is very uniform geometric structure with 3.6 amino acids in each turn of the helix. The helical structure turns of spiral. Beta pleated sheet is formed by folding back of polypeptide.

Q9. What are Lipids? Give two functions of waxes.

Ans 1: The lipids are the heterogeneous group of compounds related to fatty acids is insoluble in water but soluble in organic solvents such as ether, alcohol, chloroform and benzene etc.

Waxes are widely spread as protective coating on fruits and leaves.

Waxes protect plants from water loss and abrasive damage.

Q10. Write a note on glycogen.

Ans 1: It is also called animal starch. It is the chief form of carbohydrates stored in animal body. It is found abundantly in liver and muscle, though found in all animal cells. It is insoluble in water. It gives a red color with iodine. It also yields glucose on hydrolysis.
